

BENCHMARKS

VOLUME 6 NUMBER 8

NORTH TEXAS STATE UNIVERSITY

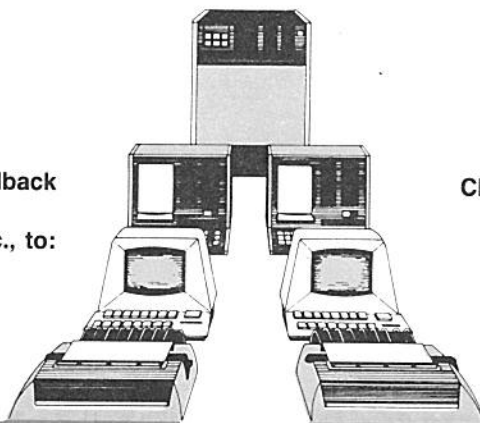
SEPTEMBER 1985

TABLE OF CONTENTS

<i>NEW POLICIES, PROCEDURES, AND OTHER IMPORTANT STUFF</i>	PAGE
Individual ID Codes Expired	1
Character Representation: Some Confusing Facts	1
Changes in Academic Computing/Technical Support Staff	2
 <i>MICROCOMPUTERS</i>	
MicroBits: Micro News You Can Use	2
 <i>OPERATIONS</i>	
Disk Backup Schedules	3
NAS/8043 and NAS/6650 Performance Statistics for July	3
 <i>TECHNICAL SUPPORT</i>	
NAS/8043 Program Hit Parade	4
 <i>VAXEN</i>	
New Features in VMS Version 4.1	5
 <i>INFORMATION SYSTEMS</i>	
More Transitions	6

BENCHMARKS Reader/User feedback is encouraged.

Send all letters, suggestions, etc., to:
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SERVICES AVAILABLE TO USERS OF THE NTSU COMPUTING FACILITIES

The NTSU Computing Center is located in the Information Sciences Bldg., Room 119. Telephone: (817) 565-2324. HELP DESK phone: 565-4050.

BENCHMARKS QUESTIONS/CONTRIBUTIONS, ETC. - Claudia Lynch

INFORMATION & ID CODES; DISK SPACE PROBLEMS - Carolyn Goodman

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STUDENT PROGRAMMING PROBLEMS - CSCI Dept., GAB Room 542A; BCIS Dept., BA Room 152

JCL PROBLEMS; PASSWORD & OPERATING SYSTEM PROBLEMS COMMUNICATION/TERMINAL PROBLEMS - Help Desk

DATA ENTRY & KEYPUNCH; TEST SCORING & ANALYSIS - Betty Grise

ADMINISTRATIVE APPLICATIONS - Coy Hoggard

PRINTOUT RETRIEVAL - RJE Operators

DIALING UP NTSU COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565 - 3300,3499

300 BAUD: D/FW METRO 429 - 6006

The numbers that will accept either 300 or 1200 baud communications have an autobaud feature that requires the user to hit the **RETURN** key repeatedly until the receiving modem can determine the appropriate baud rate. The METRO telephone number is for 300 baud communications only. After a communications link has been successfully established, the user will receive the **#** prompt. At this point, it will be necessary to issue the appropriate **CALL** command to connect with a computer.

CALL 8040 will connect with the NAS/8043
8050 (for MUSIC access)
8060

CALL 3270 will connect with the NAS/8043
3280 through the 3270 protocol converter

CALL A780 will connect with VAX-A
CALL B780 will connect with VAX-B

CALL 2000 will connect with the HP-2000

NTSU CABLE SYSTEM SCHEDULE

The current configuration of the NTSU cable system is as follows:

Channel 8 — Tager microwave channel. Carries broadcasts to and from NTSU to other links in the Tager network.

Channel 10 — NTSU Computer System Status Monitor (SSM). Displays the current status of the NAS, VAX and HP computer systems supported by the Computing Center.

Channel 9 — NT Daily. Broadcast originates from the NTSU Journalism Department.

Channel 12 — Cox Cable. Currently broadcasts Cable News Network (CNN), unless a special program is requested.

Special broadcasts to and from classrooms, etcetera can be arranged by contacting the Media Library (565-2484).

HOURS FOR NTSU COMPUTER ACCESS AREAS**FALL SEMESTER*:**

<u>Days</u>	<u>Times</u>	<u>Location</u>
Sunday	2-10 p.m. Noon-Midnight 2-11 p.m.	ISB 110 Terminal Area Computing Center RJE GAB 550C College of Business
Saturday, Sunday	12:15 p.m.-Midnight	
Monday	7:00 a.m.-Midnight	Computing Center RJE
Tuesday-Saturday	7:00 a.m.-Open 24 hrs/day	Computing Center RJE
Monday-Thursday	7:30 a.m.-10 p.m. 8:15 a.m.-Midnight 8 a.m.-Midnight	ISB 110 Terminal Area College of Business GAB 550C
Friday	7:30 a.m.-9 p.m. 8:15 a.m.-8 p.m. 8 a.m.-8 p.m.	ISB 110 Terminal Area College of Business GAB 550C
Saturday	10 a.m.-8 p.m. 9 a.m.-6 p.m. CLOSE Midnight	GAB 550C ISB 110 Terminal Area Computing Center RJE

*EXCEPTIONS for GAB 550C: 11/27 12/20 — 8 a.m.-5 p.m.; 12/16-19 — 8 a.m.-10 p.m.; 11/29 — 10 a.m.-6 p.m.; 11/28, 30 12/21 — CLOSED

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*      NEW POLICIES,
*      PROCEDURES,
*      AND OTHER
*      IMPORTANT
*      STUFF
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* * * * *

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Individual ID Codes Expired

If you had an individual faculty, staff, or student USERID last year, and you did not renew your account for the upcoming fiscal year, our ID Code is no longer valid. If you wish to continue as a computer user here at NTSU and want to retain the files you had in the past, you need to contact the Computing Center VERY SOON about restoring (if they have been deleted) your files. Call 565-2324 or come by ISB 119 to attend to this matter.

Character Representation: Some Confusing Facts

By Claudia Lynch, *Benchmarks* Editor

Terminals in the public access areas around campus are ASCII devices. That is, they encode characters into sequences of 0 and 1 bits (so that the computer can understand them) in the American Standard Code for Information Exchange (ASCII). IBM computers (including the NAS/8043), however, speak EBCDIC (Extended Binary-Coded-Decimal Interchange Code). In a very general sense, this means that the ASCII code sent from the terminal must be translated by the software (operating system) into EBCDIC, so that the 8043 can understand it. Thus, although your terminal (if you are using a public access terminal, and maybe even if you are not) generates ASCII characters, the computer sees them as EBCDIC. Furthermore, if you cause the hexadecimal representation of the characters you type on the screen to be displayed, you will always see EBCDIC, because the software has translated them already. Now let's add another level of complexity.

When you **CALL 8040** you are going directly to the NAS/8043, but when you **CALL 3270** you are going through the protocol converter before you get to the 8043. In this case, the protocol converter translates the ASCII characters into EBCDIC instead of the software, and in certain cases, they are translated differently.

The following table lists the characters that are translated differently by the protocol converter and shows what you actually see on your screen (if we add another level of complexity, a printer, you may get even different results on a printout, but more on that in another issue). These are important to note because if you create a file while CALLED to 3270 the characters may look different if you decide to edit it CALLED to 8040 (and vice versa).

SPECIAL CHARACTER REPRESENTATIONS ON "8040" AND "3270"

Character (Graphic)	Generated When CALLED to 3270	Appearance When CALLED to 8040	Generated When CALLED to 8040	Appearance When CALLED to 3270
	You See	You See	You See	You See
[	[	\	[	]
:	:	^	:	]
!	!	!	!	!
]	]	~	]	/
^	^		^	^
/	/		/	
~	~		~	
,	,	[	,	
{	{		{	
}	}		}	
\	\		\	[

Legend of Special Characters:

[	Opening Bracket	!	Vertical Line
!	Exclamation Point	]	Closing Bracket
^	Circumflex	~	Tilde
	Logical OR	`	Grave Accent
{	Opening Brace	}	Closing Brace
\	Reverse Slant	/	Slash

Changes in Academic Computing/Technical Support Staff

Dave Molta, part time employee of Academic Computing Services for the past year has accepted a position as a Telecommunications Specialist with the Communications section of the Technical Support group here in the Computing Center. Tim King, a graduate student in the Biology department, is now employed in the position vacated by Dave.

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*               *
*   MICROCOMPUTERS   *
*               *
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MicroBits: Micro News You Can Use

By Mike Flanery, Manager of the Microcomputer Maintenance Shop - GAB 529 Ext. 2387

OPERATING CONDITIONS

Many of us have a tendency to assume that our microcomputer can be expected to function normally under just about any conditions. After all, we have to stay and work even if the air conditioning has been shut off or is not working properly; but computers are not like people. They have a specific temperature range for normal operation and should **never** be turned on or operated when the ambient temperature is outside this range. For the TIPC, this range is defined by the manufacturer and can be found in Appendix G of the *Operating Instructions* manual that comes with every TIPC. Texas Instruments indicates that the TIPC should not be operated when temperatures are above 80 degrees F or below 60 degrees F. That may come as a surprise to some, for I know that there are offices on campus that get hotter than 80 degrees at times. However, there are good reasons for setting these limits and you should pay attention to them. Operating any computer, not just the TIPC, outside this range of temperatures can produce unreliable results and permanent damage to the (state-owned) equipment. Please be aware.

HAPPINESS IS A WARM BOOT

I often see this scenario when I am out and about making service calls. A microcomputer user has come to a "dead-end" in a particular program, or the program has "hung up", or they simply want to start over or start a different program. This user will turn the whole system off and then immediately turn it back on to **re-boot**. There are several things wrong with this. First, it is almost always unnecessary to turn off the power to re-boot. Second, it is not good for the ON-OFF switch (they can and will fail) or the power supply. Third if you leave your diskettes in the drive and the drive doors shut, you can ZAP your diskettes!! So what is the alternative? Most machines have the capability to perform a "warm boot," i.e., re-boot with the power on. On the TIPC and IBM PC you can warm boot by holding down the **CTRL** and **ALT** keys and then pressing the **DEL** key (**CTRL-ALT-DEL**). The Apple IIe & c can be warm booted by pressing the **CTRL-OpenApple-Reset** keys simultaneously. This will save you time because a warm boot takes less time than a cold boot. It will also save needless wear and tear on the equipment. Try it and see !!!

ANOTHER ITEM OF INTEREST FOR TI MODEL 855 PRINTER USERS

We have noticed that if you use the Modern PS font module, columns and borders won't consistently line up. This is because this font module is a "proportional spacing module and so all the spaces will not be the same width as they are on the screen when you enter the information. If you run into this problem, just switch modules.

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*               *
*   O P E R A T I O N S   *
*               *
* * * * *

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Disk Backup Schedules**Backup Schedule for OS/MVS**

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems on the NAS machines and their contents is done once every two weeks at some low activity period over a weekend.

MUSIC Backup Hours

A message will be sent to all users signed on to MUSIC approximately 10 minutes before backups are begun. It will be in the form * * MUSIC SHUT DOWN AT xxxx AM - SCHEDULED BACKUP *. To find out the backup hours while signed on to MUSIC enter HELP HOURS. The following backup schedule is currently in effect:

Tuesday	3 a.m. (for about 3 hours)	Weekly backup
Wednesday - Saturday	4 a.m. (for about 2 hours)	Daily backup
Saturday	Midnight (for about 2 hours)	Daily backup

VAX Backup Schedule

Incremental backups of both VAX systems are performed Monday through Thursday at 4 p.m. Users do not have to log-off, but any files that are open at the time of the backup will NOT be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done the third Tuesday of every month, in the afternoon, just before preventive maintenance. This procedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut down; watch the system log-on message for specific times and dates.

NOTE: No backups are taken on the weekends. Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done.

NAS/8043 and NAS/6650 Performance Statistics for July

CPU	SYSTEM	SCHEDULED OPERATING HOURS	PLANNED MAINT. HOURS	PLANNED PRODUCTION HOURS	UNPLANNED MAINT. HOURS	PRODUCTION HOURS ACHIEVED	SYSTEM UPTIME
8043	VM/SP3	744	0.00	744.00	2.08	741.92	99.7%
8043	MUSIC	744	21.40	722.60	2.56	720.04	99.6%
8043	MVS/JES2	744	0.00	744.00	5.63	738.37	99.2%
8043	COMPLETA	744	0.00	744.00	6.77	737.23	99.1%
6650	MVS/JES2	744	0.00	744.00	3.54	740.46	99.5%
6650	COMPLETEA	330	0.00	330.00	7.40	322.60	97.8%
6650	ADABASA	744	17.26	726.74	8.66	718.08	98.9%

System Uptime = (Production Hrs. Achieved)/(Planned Production Hrs.)

Production Hrs. Achieved = (Planned Production) - (Unplanned Maint.)

Scheduled Operating Hrs. = (Planned Maint.) + (Planned Production)

MUSIC Planned Maintenance Hours include 21.40 Hrs. for system backup.

ADABASA'S Planned Maintenance Hours include 17.26 Hrs. for system backup.

BENCHMARKS**SEPTEMBER, 1985**

The NAS/8043 CPU achieved 100% uptime. The NAS/7360 DASD achieved 100% uptime. The NAS/7350 DASD achieved 99.7% uptime. The NAS/6650 CPU achieved 100% uptime. The STC 8650 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the following key causes:

NAS/8043 CPU:**CPU, Tape, and Disk Subsystems (NAS)**

1. HDA Failure on 7350 DASD (35B)	2.02 HOURS
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Miscellaneous

1. System Shutdown due to inadequate cooling in computer room	2.30
2. MVS/JES2 System Tuning/Improvements	1.90
3. VM/SP3 System Tuning/Improvements	0.58

TOTAL	4.78
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GRAND TOTAL FOR NAS/8043	20.81 HOURS
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NAS/6650 CPU:**ISB Input/Output Station (IBM)**

1. 2821 I/O Controller Failure	3.36 HOURS
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Miscellaneous

1. COMPLETA System Failures	4.37
2. MVS/JES2 System Tuning/Improvements	2.10
3. ADABASA System Tuning/Improvements	2.08
4. ADABASA System Failures	0.38

TOTAL	8.93 HOURS
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GRAND TOTAL FOR NAS/6650	29.04 HOURS
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*                                     *
*      TECHNICAL                     *
*      SUPPORT                       *
*                                     *
*****
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NAS/8043 Program Hit Parade

The following programs were used the most frequently on the NAS/8043 during the month of July.

TOP TEN PROGRAMS IN TERMS OF FREQUENCY OF RUNS

<u>Program</u>	<u>Description</u>	<u>Number of Runs</u>
1. IEWL	Linkage Editor	18646
2. PGM=*.DD	Compiled Program	18614
3. IKFCBL00	VS COBOL Compiler	15438
4. IEBGENER	IBM Utility	13664
5. IEFBR14	IBM Null Utility	9384

6. SCRIPT	Waterloo/SCRIPT	6530
7. SASLPA	SAS	5818
8. IFOX00	System Assembler	5138
9. LOADER	System Loader	3040
10. PTPCH	Dataset Lister	2918

TOP TEN PROGRAMS IN TERMS OF CPU SECONDS USED

<u>Program</u>	<u>Description</u>	<u>CPU Seconds</u>
1. SLPA	SAS	67827
2. PGM=*DD	Compiled Program	49082
3. IKFCBL00	VS COBOL Compiler	30562
4. IFOX00	System Assembler	19288
5. SCRIPT	Waterloo/SCRIPT	17756
6. IEWL	Linkage Editor	8997
7. LOADER	System Loader	5174
8. PTPCH	DATASET Lister	5042
9. IEBGENER	IBM Utility	3000
10. SPSS	SPSS-X	1603

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*               *
*       V A X E N       *
*               *
* * * * *

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New Features in VMS Version 4.1

By Lee Harper, VAX Operator

Taken from the *Computation Center Newsletter*, University of Texas at Arlington.

VAX/VMS operating system has been upgraded from version 3.6 to 4.1. Here is some information about new features available in V4.

1. A clustering capability, enabling up to 5 VAXes to share disk and tape drives efficiently.
2. A new command-line editor, so that you can recall up to 20 of your most recent commands, then select one, edit it, and re-execute it.
3. The capability to reconnect (CONNECT) to your process if your job is dropped because of a communications problem. You have 15 minutes before your original process is deleted.
4. A DEFINE/KEY command, which you can use to associate an often-used text string or command with a function key.
5. Access Control Lists, which you can use to declare file protection on a user-by-user basis as well as the method of "system-world-group-owner".
6. A SET PROMPT command, which you can use to redefine the DCL prompt. This feature is especially useful if you use several VMS systems: you can set your prompt to the node name, such as AGL, to remind you of what system you are using.
7. An improved SET BROADCAST command, which now enables you to declare what class of broadcast messages you want sent to your terminal.
8. Asynchronous DECNET support (via RS-232 lines).
9. Multiple destination assignments. For Example:

```
DEFINE EXE —MYDIRECT!,SYS$SYSTEM
```

Assigns EXE to look first in —MYDIRECT! and then in SYS\$SYSTEM when you issue the command:

RUN EXE:PROG

10. An expanded MAIL utility that includes the capability for using folders. Excellent help information is available within MAIL.
11. Support for MAIL/EDIT. You can now use the /EDIT qualifier on the command itself. You can also now redefine the mail command so that editing is always permitted:
mail = "mail/edit = (send,forward,reply = extract)"
12. The command MONITOR SYSTEM, which describes the load on the system.
13. An EXCHANGE utility program for filetype conversions (replacing FLX).
14. Improvements to the symbolic debugger, which now has control structures such as IF-THEN-ELSE; windows for viewing your source program, commands, and results in separate screen areas; support for WHEN clauses on all breakpoints, tracepoints, and watchpoints; an enhanced SHOW SYMBOL that gives address and type for symbol; and new radix operators such as %BIN, %DEC, %HEX, and %OCT.
15. Significant improvements to EDT.

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*      I N F O R M A T I O N
*      S Y S T E M S
*
* * * * *
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Transitions

Chris Zeigler is continuing to stay home with her baby daughter, Catherine. She is not yet sure when she will return to work, but thinks it may be early October.

Bill Shumate has joined the Fiscal Team, filling the vacancy left by Greg Naugher. Bill comes to us from the University of Texas of the Premian Basin (Odessa), where he worked as a programmer for 1 1/2 years. He makes a happy addition to our Computing Center staff.

Get a "Subscription" to *Benchmarks*

Benchmarks is a vital link between the NTSU Computing Center and the users of our facilities. It is important for all users of the computing facilities to maintain a file of these newsletters because they contain materials which will periodically update existing documents as well as information and suggestions on uses of OS/MVS, MUSIC, the VAX 11/780's, the HP-2000, and other resources available to NTSU students and faculty. To facilitate the dispersal of *Benchmarks*, *** **FREE** *** subscriptions are available. To receive yours, send the following information to us either by "snail mail" (the post office or campus mail) or electronically, through the MEMO facility on MUSIC to FA18.

Name _____

Mailing Address _____

Name _____

Mailing Address _____

_____**PLEASE GIVE A CAMPUS ADDRESS (NOT BOX) IF POSSIBLE! - It's Cheaper !!**

PLEASE RETURN TO:
Academic Computing Services
The Computing Center
NT Box 13495
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Denton, TX 76203